Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (original) A magnetic disk drive including a magnetic head for writing/reading information to/from a magnetic recording medium and a preamplifier for exchanging read/write information with said magnetic head, said disk drive comprising:

two or more types of control function units provided in said magnetic head;

signal superposing means for merging two or more types of transmission lines into a single type of transmission line on the preamplifier side of a spring load position of a suspension, said two or more types of transmission lines transmitting control signals for said two or more types of control function units; and

signal separating means for dividing said single type of transmission line into two or more types of transmission lines on the magnetic head side of said spring load position of said suspension.

2. (original) The magnetic disk drive as claimed in claim 1, wherein:

said two or more types of control function units include a first control function unit for implementing a two-stage actuator function and a second control function unit for implementing a flying height control slider function;

said signal superposing means merges a first transmission line and a second transmission line into a third transmission line, said first transmission line transmitting a control signal for said first control function unit, said second transmission line transmitting a control signal for said second control function unit, each transmission line consisting of two conductors; and

said signal separating means divides said merged third transmission line into a fourth transmission line and a fifth transmission line, said fourth transmission line transmitting a control signal for said first control function unit, said fifth transmission line

transmitting a control signal for said second control function unit, each transmission line consisting of two conductors.

3. (original) The magnetic disk drive as claimed in claim 2, wherein said signal superposing means superposes a signal of a first frequency with a signal of a second frequency for controlling a heating resistor of said second control function unit and transmits the superposed signal through said third transmission line, said first frequency being able to drive a piezoelectric element of said first control function unit, said second frequency being higher than said first frequency and unable to drive said piezoelectric element of said first control function unit.

4. (original) The magnetic disk drive as claimed in claim 3, wherein said signal of said second frequency is made up of a sinusoidal signal.

5. (original) The magnetic disk drive as claimed in claim 4, wherein said signal separating means uses interline crosstalk generated from said fourth transmission line to separate said signal of said second frequency and controls said heating resistor of said second control function unit through said fifth transmission line, said fourth transmission line being connected to said third transmission line, which transmits said superposed signal obtained as a result of superposing said signal of said first frequency with said signal of said second frequency.

6. (original) A magnetic disk drive comprising:

a magnetic recording medium;

a magnetic head including

a read element for reading information from said magnetic recording medium and providing read signals,

a write element for writing information to said magnetic recording medium in response to write signals,

a first control function unit, responsive to a first control signal, for effecting a first type of change in an operating characteristic of said magnetic head, and

a second control function unit, responsive to a second control signal, for effecting a second type of change in an operating characteristic of said magnetic head;

a suspension for supporting said magnetic head, said suspension having a spring load position;

a transmission line segment spanning said spring load position;

a signal superposition element that receives first and second signals and combines them to provide a combined signal directed along said transmission line segment spanning said spring load position toward said magnetic head; and

a signal separation element on said suspension that

receives said combined signal after said combined signal has traveled past said spring load position, and

directs separate signals along first and second transmission line segments to said first and second control function units, respectively, to provide said first and second control signals.

7. (new) The magnetic disk drive as claimed in claim 6, wherein:

said first control function unit is configured to implement a two-stage actuator function and said second control function unit is configured to implement a flying height control slider function.

8. (new) The magnetic disk drive as claimed in claim 7, wherein:

said signal superposition element is configured to merge a first transmission line and a second transmission line into a third transmission line to provide the combined signal to be directed along said transmission line segment spanning said spring load position toward said magnetic head, said first transmission line transmitting the first control signal for said first control function unit, said second transmission line transmitting the control signal for said second control function unit, each transmission line consisting of two conductors.

9. (new) The magnetic disk drive as claimed in claim 8, wherein:

said first and second transmission line segments each consist of two conductors.

10. (new) The magnetic disk drive as claimed in claim 9, wherein said signal superposing element is configured to superpose a signal of a first frequency with a signal of a second frequency for controlling a heating resistor of said second control function unit and transmit the superposed signal through said third transmission line, said first frequency being able to drive a piezoelectric element of said first control function unit, said second frequency being higher than said first frequency and unable to drive said piezoelectric element of said first control function unit.

11. (new) The magnetic disk drive as claimed in claim 10, wherein said signal of said second frequency is made up of a sinusoidal signal.

12. (new) The magnetic disk drive as claimed in claim 11, wherein said signal separation element is configured to use interline crosstalk generated from said first transmission line segment to separate said signal of said second frequency and control said heating resistor of said second control function unit through said second transmission line segment, said first transmission line segment being connected to said transmission line segment spanning said spring load position, which transmits said superposed signal obtained as a result of superposing said signal of said first frequency with said signal of said second frequency.